UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,057	04/25/2005	Huan nan Ma	E1734-00007	2070

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EXAMINER
KAO, WEI PO ERIC

ART UNIT	PAPER NUMBER
2464	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/522,057	MA ET AL.
	Examiner	Art Unit	
	WEI-PO KAO	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2010*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Response to Amendments

1.   The examiner has acknowledged the amendment made to the claims. The 35 U.S.C. 101

rejection has been withdrawn.

Response to Arguments

2.   Applicant's arguments filed on 04/02/2010 have been fully considered but they are not

persuasive.

In response to the remark on pages 5 and 6:

In response to the entire content of the remarks, in particular that Shiragaki does not teach the

newly amended claim 1 because the amended claim 1 recites the features of "1) the higher layer

module … at the moment …; there are no additional steps between said detection and said

information; and 2) the low layer processing module breaks … immediately when …; there are

no additional steps between said detection and said breakage and said setting up of the bypass,"

the examiner respectfully disagrees. It is believed that the amendment does not necessarily

yields the above interpretation as desired by the Applicants. The examiner agrees with the

Applicants that the amendment may be interrelated above as desired by the Applicants, however, this is not the only interpretation. Given the broadest reasonable interpretation to the amended claim 1, the amended claim also possesses that 1) high layer processing module will inform the low layer processing module after (or not necessarily at the moment) when the high layer processing module detects/encounters a trouble; 2) the low layer transmission passage is broken and the low layer processing module connects the broken passage to set up a bypass after (or not necessarily immediately) when the low layer processing module detects that the high layer processing module encounters the trouble. Therefore, the rejection by Shiragaki's teach should still remain valid.

In response to the remark on pages 6 and 7:

In response to the entire content of the remarks, in particular that Shiragaki does not teach the feature of "the low layer transmission passage between …so as to isolate the high layer processing module encountering a trouble," the examiner respectfully disagrees. Given the presented claims, specifically claim 1, the "low layer transmission passage" between the low and high layers is believed to be a passage to carry traffic or service. When it is broken as presented in the claim, it is believed that it does not necessarily mean the communication or signaling between low and high layer is seized. In fact, breaking of the transmission passage may only mean the traffic or service carried by the transmission passage no longer flows to high layer. In another word, the examiner believes that breaking of the transmission passage does not seize the communication or signaling between low and high layer; breaking of the transmission passage may merely mean the traffic or service carried by the transmission passage no longer flows to

high layer, at least based on the given claim limitations. Since, Shiragaki teaches exactly the

above interpretation, namely, after layer B detecting layer A encountering trouble by receiving

notice 203 (signaling) and obtain the right to switching the main signal (a transmission passage

carrying traffic or service) after receiving notice 208 (signaling), the main signal (a transmission

passage carrying traffic or service) no longer flows to layer A and thus bypass the layer A

encountering trouble. Therefore, the examiner respectfully asserts that Siragaki does teach the

particular limitation.

Claim Rejection - 35 USC § 103

3.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.

2.   Ascertaining the differences between the prior art and the claims at issue.

3.   Resolving the level of ordinary skill in the pertinent art.

4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 3, 4, 5, 6, 7 and 9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Shiragaki, U.S. Publication No. 2002/0162045 in view of Pierson, Jr., U.S. Patent No. 6633566 (hereinafter Pierson).

Regarding Claim 1, Shiragaki discloses that **a method for protecting high layer service in the**

multi-layer communication equipment, comprising the following process (see Abstract):

first, a low layer processing module provides high processing module with low layer

transmission passage (see Figures 1 and 2, [0004-0006] [0164] [0175] i.e. such multi-layer

communication setup is commonly known as IP over SONET/SDH, according to OSI model,

SONET/SDH is at physical layer, which provide physical connection between network nodes, IP

is at the network layer, which provides routing or logical connection; another common multi-

layer setup is ATM over SONET/SDH); **third, when the layer processing module detecting**

said high layer processing module encountering the trouble, it will inform the low layer

processing module (see Figure 1 Elements 103 and 104, Figure 3 Elements 203/208, [0025]

[0030-0033] [0176-0177] [0180] [0182]); **fourth, when the low layer processing module**

detecting that the high layer processing module encounters the trouble, the low layer

transmission passage between the low layer processing module and the high layer

processing module is broken, and the low layer processing module connects the broken

passage to set up a bypass, so as to isolate the high layer processing module encountering

the trouble (see Figures 3 and 4, [0180] [0182] [0185-0188] i.e. according to [0186], layer A

remains in the failed state since it is not yet able to recover the failure; according to [0187], layer

B is able to finish up the failure recovery and carry out the main signal after receiving the switch

authorization notice; in summary a bypass is set up after layer B detects layer A encountering a

failure after receiving notice 203 and 208 to carry out the main signal while layer A remains in a

failed state). However, Shiragaki does not teach that **second, the high layer processing module**

of the multi-layer communication equipment extracts and inserts high layer service of the

multi-layer communication equipment from the low layer transmission passage, avoiding changing the service between upstream node and downstream node after passing the high layer processing module of the multi-layer communication equipment. Pierson from the same field of endeavor teach that **second, the high layer processing module of the multi-layer communication equipment extracts and inserts high layer service of the multi-layer communication equipment from the low layer transmission passage** (see Abstract, Figures 1 and 5, Column 2 Lines 30-39, Column 3 Lines 44-67, Column 4 Lines 1-40, Column 7 Lines 6-49, Columns 9 and 10 e.g. column 10 lines 14-26; to extract ATM service from the SONET transmission passage, the ATM receiver receives the data cell unloaded from a SONET frame; to insert ATM service to the SONET transmission passage, the ATM transmitter sends the data cell to the SONET transmitter to be loaded to the SONET frame), **avoiding changing the service between upstream node and downstream node after passing high layer processing module of the multi-layer communication equipment** (see Figure 5 Steps 511 and 523, Column 9 Lines 38-40, Column 10 Lines 34-36 i.e. data being compressed and restored suggests that the data remains unchanged or in another word the service carried by the data remains unchanged). At the time of the invention, it would have been obvious to a person ordinary skill in the art to implement the functionalities of the ATM transmitter/receiver and the SONET transmitter/receiver as well as the data processing mechanism from Pierson's teaching to Shiragaki's inventive A layer and B layer respectively. The motivation would have been that the available bandwidth of the network is efficiently utilized especially in the case of a TDM transferring scheme (see column 3 lines 15-41).

Regarding Claim 3, Shiragaki further discloses that **a method for protecting high layer service in a multi-layer communication equipment, wherein in the third step, when high layer processing module detects the said module encountering trouble, it will inform low layer processing module by soft messages or hardware signals** (see [0232]).

Regarding Claim 4, Shiragaki further discloses that **a method for protecting high layer service in a multi-layer communication equipment, wherein in the fourth step, said situation that low layer processing module detect high layer processing module encountering trouble further comprising: low layer processing module judges whether the service signal transmitting by high layer processing module is invalid or not, or low layer processing module detects the hardware signals or soft messages sending by high layer processing module indicating its invalidation** (see Figure 3 Element 208, [0186] i.e. once layer B receives the notice 208, it knows that the layer A is not yet recovered from the failure; in another word, layer B detects the messages sending by layer A indicating its invalidation).

Regarding Claim 5, Shiragaki further discloses that **a method for protecting high layer service in the multi-layer communication equipment, wherein said bypass is actual connection of a physical line** (see [0004-0007] i.e. according to OSI model, SONET/SDH is at physical layer).

Regarding Claims 6 and 9, Shiragaki further discloses that **wherein said bypass connection is actual connection of the physical lines, or it is a logical connection with the low layer**

processing module (see Figure 1 i.e. the main signal is known to be at least a logical connection).

Regarding Claim 7, Pierson further discloses that **wherein the low layer processing module is a SDH processing module and the high layer processing module is an ATM processing module** (see Column 2 Lines 31-35, Column 10 Lines 14-26).

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki, U.S. Publication No. 2002/0162045 and Pierson, Jr., U.S. Patent No. 6633566 (hereinafter Pierson) as applied to claim 1 above, and further in view of Conoscenti et al, U.S. Patent No. 5627836 (hereinafter Conoscenti).

Regarding Claim 2, Shiragaki and Pierson teach that **a method for protecting high layer service in the multi-layer communication equipment, wherein in the second step, a connection is set up for the service passing the high layer processing module of the said node, namely for ATM traffic, a cross connection** (see Pierson, Figure 6, Column 10 Lines 52-67, Column 11 Lines 1-55 i.e. since ATM is known for its connection oriented characteristic, figure 6 provides a suggestion that an ATM connection is set up between a source/master and a destination/slave in order to carry the ATM traffic). However, Siragaki and Pierson do not specifically teach that **a transparent virtual path connection is set up for the service passing the high layer processing module of the said node, namely for ATM traffic, a cross**

connection, which changes neither virtual path identification nor virtual channel identification, will be set up, to avoid changing the service between upstream node and downstream node after passing high layer processing module of the said node. Conoscenti from the same field of endeavor teaches that **a transparent virtual path connection is set up for the service passing the high layer processing module of the said node, namely for ATM traffic, a cross connection** (see Abstract, Figure 1, Colum 1 Lines 39-67, Column 2 Lines 1-7, Column 6 Lines 29-67, Column 7 Lines 1-14 i.e. a virtual path connection is defined by the VPI), **which changes neither virtual path identification nor virtual channel identification, will be set up, to avoid changing the service between upstream node and downstream node after passing high layer processing module of the said node** (see Column 2 Lines 50-67, Column 3, Colum 4 Lines 46-62 e.g. column 4 lines 46-62 e.g. accordingly, the VPI/VCI values remain constant throughout the network). At the time of the invention, it would have been obvious to a person ordinary skill in the art to implement the VPI/VCI administration mechanism to Shiragaki and Pierson's combined teaching. The motivation would have been that the VPI/VCI values can be utilized to administrate the network and perform maintenance related functions (see column 3 lines 3-6).

Allowable Subject Matter

8.   Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9.   **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

10.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Referring to the PTO Form 892, references are cited to show similar method and

system of protecting a failing layer.

11.   Examiner's Note: Examiner has cited particular columns and line numbers in the

references applied to the claims above for the convenience of the applicant. Although the

specified citations are representative of the teachings of the art and are applied to specific

limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI-PO KAO whose telephone number is (571)270-3128. The examiner can normally be reached on Monday through Friday, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit

2464

/Wei-po Kao/

Examiner, Art Unit 2464